

TECHNOLOGY CONSULTING

IN THE GLOBAL COMMUNITY

Final Consulting Report
Palau Office of Attorney General
Jonathan Lindstrom
August 2025

Carnegie Mellon University





Office of the Attorney General ROP Executive Summary

Student Consultant, Jonathan Lindstrom
Community Partner, AG Ernestine Rengill

I. About the Organization

The Office of the Attorney General in the Republic of Palau serves as the country's primary legal authority, responsible for prosecuting all criminal cases and providing public legal counsel. Located in the heart of Koror, the office supports the broader mission of the Palauan government: *"To effectively provide government with the revenue necessary to meet the needs of the people of Palau."* While the office itself has the mission *to provide legal services to the entire executive branch in a professional and timely manner and to protect the public by fairly and vigorously prosecuting all criminal cases.*

The office is led by the Attorney General and supported by six lawyers, four administrators, and interns. It functions as a public law firm, where citizens can seek legal opinions, submit grievances, or request assistance with legal documentation. Despite its important role, the office operates with limited resources, outdated technology, and no formal staff training.

The criminal case database—containing over 30,000 records—is built in Microsoft Access and suffers from redundancy, missing data, and inefficiency. Supporting documents are managed across various Excel spreadsheets. Technology infrastructure includes older Dell computers running Windows 11 and Microsoft Office 2019, networked through a local server. IT is handled solely by a technician from the Ministry of Justice, and there is no dedicated technology budget, limiting the office's ability to adopt or maintain new systems.

II. Redesign and Normalize the Criminal Database of Palau

The Attorney General's office had a denormalized database with limited functionality created by an external contractor a few years ago. This resulted in a lot of redundant and wildly inconsistent data across more than 30,000 case records. My primary goal was to completely redesign and normalize

the existing database. This included a complete redesign of the ERD, a full data migration from the single table before into seventeen tables in a relational database, and a complete rework of the UI of all forms and data retrieval in Microsoft Access.

III. Expand on Existing Database Functionality

In addition to the goal stated above of normalizing their data and redesigning how it is inputted and retrieved a secondary goal for the summer was to expand on the database's functionality to include as many functions as possible for cases. Some of this includes allowing for civil cases, allowing for multiple parties per case, adding arresting officer and location information to cases, and having report statistics on misdemeanor and felony charges by fiscal year.

Consulting Partner

AG Ernestine K Rengiil
ekrengiil57@gmail.com
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Office of the Attorney General ROP
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<http://www.palau.gov.pw>

About the Consultant

Jonathan Lindstrom
jmlindst@andrew.cmu.edu

Jonathan just finished his senior year majoring in Information Systems and Human-Comp Interaction. He will start working in digital experiences at Mondelez International in January.

Office of the Attorney General ROP

Final Consulting Report

Student Consultant, Jonathan Lindstrom
Community Partner, AG Ernestine K Rengiil

I. About the Organization

Organization

The attorney general's office in the Republic of Palau is in charge of recording and prosecuting all criminal cases in the Republic of Palau. It is located in the heart of Koror, right on Main street. I am a five minute walk away from popular grocery stores such as Surangels and WCTC. While there is no stated mission statement as there is no website my office is made up of administrators and lawyers.

The way the office runs is that people come in with issues. These could be Civil cases, grievances, property issues, letters asking for a lawyer's opinion and the administrators file them. These cases as well as criminal cases received from the police are handled by the lawyers here. This is the public law firm of Palau. The office is also responsible for maintaining the criminal history of all citizens and helping the police receive search warrants and drafting documentation for opposing counsel.

There are 11 lawyers and administrators working here plus myself and another intern that starts next week all led by the Attorney General. This office serves the entire country of Palau with over 25,000 records in their criminal database currently.

The mission of the Attorney General's Office is to provide legal services to the entire executive branch in a professional and timely manner and to protect the public by fairly and vigorously prosecuting all criminal cases.

Facilities

The office is relatively small. A single-floor building in between the Bank of Guam and the Taj, an Indian restaurant. There are three main rooms in the building. The first room has an entrance to a big conference room for private meetings and 4 desks for administrators. There are 4 women who work there every day and are largely responsible for logging files and other administrative tasks. In the next room over there are 5 desks where the lawyers work. There are couches in this room and every desk has a Dell computer running Microsoft Office. Continuing back through the office there is the attorney general's private office which is fairly big with lots of desk space and couches. There are also bathrooms, and a small community kitchen. There is no security but good AC, lighting, wifi, and adequate power to run the 10 or so computers in the office with no major problems.

Programs

This office is primarily responsible for servicing the executive branch as a public counsel. People can come in for a legal opinion. They can come in to discuss their cases with civil, criminal, misdemeanor, or juvenile lawyers. They can look over contracts and other binding documentations as well as submit grievances or other issues they may have.

These support the mission of the government of Palau because it is serving the people of Palau. They are the lawyers for the state that put criminals behind bars and they protect their clients that come to them with civil issues. Computers are used to manage all of this, but it is poorly structured. The one database they have isn't normalized and has redundant and missing data. It only supports criminal cases as well and all statistics and reporting is done manually from pulling this data as an excel sheet. The rest of documentation, forms, and data are kept in Microsoft Excel sheets from my understanding.

Staff

Attorney General Ernestine Rengiil is the leader of the office. She works under the minister and has meetings in her office all day. There are five lawyers. Hila Asanuma, Lavina David, Christiaan Mitchell, Kathe Burch, Poseci Lalabalavu, and Kesa Elo. Christiaan and Kathe do Civil cases, Hila, Poseci, and Lavi do Felonies, & Kesa does citations and misdemeanors as well as juvenile cases.

Their day to day is coming into the office, reviewing files, drafting information and affidavits for clients or opposing counsel, giving advice, and sometimes meeting with victims. They also prepare plea deals and go to court when needed.

At the desks up front are 4 wonderful ladies, Lbong Walter, Shelia Kailang, Yoppong Chin(goes by Nael), and Nanumi Toribiong. Numi is the Chief Administrative Officer and is one of the primary users of my project, along with Shelia and Nael. Lbong does the budget and is the first person that anybody coming in sees. I have been told they train themselves and just learn as they go, and there is no official training. They currently log criminal cases against the country of Palau in a Microsoft Access database. Their computers run on Windows 11, with an older version of Microsoft Office from 2019.

Technology Infrastructure

| | What they Have |
|-------------------------|---|
| Operating System | Windows 11 |
| Wifi | 9.52mbs download and 8.35mbs upload. Unsure of other specs, but that is off of speedtest.net |
| Hardware | Optiplex tower plus 7010 monitor. 128 MB graphics card Storage varies from computer to computer |

| | |
|--------------------------|--|
| | 8GB RAM 13th Gen Intel Core I7-13700 - 2.1GHz |
| Software Programs | Microsoft Office Professional Plus 2019 |
| Server | A physical server is maintained in the office, which all the computers run off of. Unsure of exact specs. This is where my project is stored so all computers in the office have access to it. |

Technology Management

All technology management is done on an Ad-Hoc basis by Blekuu Sbal. Blekuu is responsible for all IT for all government branches across the Ministry. Mr. Sbal is called in by all the offices under the Ministry of Justice for various technical issues, which may range from restarting a system to advising on technology infrastructure improvements.

He is the sole technical support. The rest of the office does not have experience in debugging technical issues or setting up software, hardware, or servers. He is the one who sets up the server to keep information secure and backs up important documents.

Technology Planning

The budget for the office is decided by Lbong at the front desk. She is sent a form by the Ministry of Finance every year to fill out. 60% of their budget is allocated to the first and fourth quarters and 40% to the second and third quarters. Their total yearly budget is around \$750,000 which the vast majority of goes towards salaries.

There are no specific funds allocated for technology. If they so need they figure out how to move money around to serve their needs. Any technology planning is done by Mr. Sbal as mentioned. He is the one who set up the server, computers, and softwares.

All employees use their personal email here at the office but they have access to the server to back up files or share files internally. Some files are also just shared over email.

Communication & Information Management

Currently this is the way the office runs. A case comes in and they fill out a form in a microsoft access database. Letters and other documents that come in are filled into a microsoft excel spreadsheet. All Information is managed on a need to know basis. As told to me by the lead administrator they email, talk, and send documents as needed but there is not one system or file structure in place for managing all of their information.

Their criminal database is inefficient. Plagued with redundant and missing data it is inaccurate and requires a huge form to be filled out every single time which is incredibly time consuming for

the administrators. This form has been filled out 30,000 times, with several records put in multiple times, and many records with missing fields. This is a huge problem because when pulling up criminal history on individuals, incomplete or inconsistent records could lead to an inaccurate background check.

This is one area where there is the most concern in the office. Filling out forms is very time consuming and I believe previous projects done by student consultants here have not been as effective as the office is fairly resistant to change not due to mindset but due to technical capabilities. There is no training so learning new software is time-consuming.

Business Systems

There are a few reports given by the office currently quarterly and yearly. All accounting, payroll, and other benefits are managed by the Ministry of Finance that has been in place since the start of the government here. Lbong submits her budget there as well as a yearly report that is done manually. Nanumi also does some reporting to the Attorney General, some of this includes the types of cases they have had and statistics on how the lawyers' cases are going. For example how many they have closed, how many are on-going, etc. This is also done manually. One thing I had to keep in mind is they don't have a specific budget for tech solutions so my solution needs to be cheap and affordable or ideally use the current software they have.

II. Redesign and Normalize the Criminal Database of Palau

Motivation

Originally coming in, my plan was to simply expand their database to be able to include civil cases as well. However, after coming in and seeing the design of the current database I decided I needed to completely start this project from scratch. I learned in my database courses the importance of normalizing databases and building a proper relational database and wanted to make this database properly.

I saw instantly that this database was plagued with inconsistency and redundancy. Fields were missing, dates were wrong, names were misspelled and repeated dozens of times. All of this made me think back to my schooling and I felt the need to recreate this right and clean up and migrate all the existing data.

Outcomes

Weeks 1 - 3: Planning and Design

I started out by talking with civil lawyers, criminal lawyers and the administrators about everything that goes into a civil and criminal case and what one would actually want to be tracked. I built low-fidelity wireframes(Appendix B.) based on this and discussed them with all the stakeholders.

Once I got a general gist of what information I needed to include I proceeded to create an entity relationship diagram(Appendix A.) and interactive high fidelity wireframes(Appendix C.) that I showed discussed in depth with both lawyers and administrators to ensure accuracy. I finalized this entity relationship diagram with professor Larry Heimann at the end of week 3.

Weeks 4 - 6: Development

At this point I knew exactly what I wanted to create and had my plan so I began development in Microsoft Access. At first it was learning how things like continuous forms, combination boxes, querying, and subforms worked. I also quickly learned about VBA and how to develop code to do basic CRUD operations on my tables.

I started off by creating almost my entire project and practicing some basic design fundamentals before attempting to migrate over all of the existing data. As I said this was the toughest part of this project. It was tough to group people together with the name inconsistencies and there was so much missing information in some cases that it was really difficult to have any sort of validations or mandatory fields.

I solved these issues in a few ways. Firstly for names I ignored merging people during the migration and added a merge feature that will display all people with the same first name, last name, or DOB and give you the option to merge all instances of their personID together so all their cases will be consolidated.

I also had to ignore having many mandatory fields in my tables in order to maintain a proper record of the previous cases but instead in all my creation forms I have mandatory fields so it won't let you create a record without certain pieces.

Weeks 7-10: Testing and Integration

Now that the system was done and all data was fully migrated I began doing extensive testing. I did multiple 40 or so minute user tests with all the administrators that use the system. This helped me find bugs, places of confusion, and adjust the design to any of their preferences.

During this time I also had them using the software full time in place of the old database for everything, primarily getting criminal records and inputting cases. This helped me find additional issues or edge cases I hadn't fully considered.

Finally during this week I added some nice to haves including report statistics for their yearly reports and officer capabilities.

Overview: Where we started and what they have now

This project started as a very simplistic Microsoft Access program. It had a single table with thirty-four columns. They had a single form for inputting a new case with thirty-four text boxes

to fill out and a form that would query the existing data on any of the thirty-four columns. It was difficult to edit, there was no consistent UI, and it led to inconsistent and redundant data.

I went from this and built a sixteen-table normalized relational database. The UI was meant to resemble a proper application instead of having overlapping pop-up forms. There are indexes for every field that is searchable, a comprehensive criminal report for every individual that can be downloaded as an Excel or printed, there are detailed pages for every case, person, and lawyer showing all necessary information, where all the information is editable. Finally, I provide statistics on relevant fields to their weekly report including information on charges for juveniles and adults, categories of charges every year, counts of citations every year, and statistics for each lawyer on how many cases they have completed, pending, and on-going.

This is overall a much more comprehensive and expandable system, and I hope it will be used for many years and continue to be built on in the future. It's hard to have quantifiable numbers on how big of an improvement, but I have gotten extremely positive reactions from all 4 administrators, the lawyers in the office, and the Attorney General herself. I overall fulfilled everything that I promised this summer and am incredibly proud of my project.

Future Works and Sustainability

This system can always be expanded upon. I could see for a future project doing something like a dashboard or having more statistics. There are also other office functions that I did not incorporate into this due to it being outside the scope of my project but having everything in the same system in the future could be incredibly helpful. There are still plenty of things they do in excel or on paper.

As for sustainability, I discussed with their IT professional Mr. Sbal, how it works, and where it is saved and encouraged him to create backups of it consistently. I created a folder of tutorial videos, a site map, and an explanation of what queries connect to which forms for future students who may work on this.

One mistake I made was when creating forms and queries I tried to have some consistency and organize them into folders but I could have definitely been better about having completely consistent naming conventions across the whole project. I hope to remedy this with my documentation of what connects where.

Recommendations

Don't neglect updating cases

All of the criminal records, reports, and lawyers' information is based on what is filled out in the cases. Neglecting to fill in information about charges, update sentences, and add lawyers to parties could lead to these records and reports being inaccurate. I would encourage the administrators to keep as accurate of a record as possible and not to neglect updating cases in real time to ensure accuracy of the reporting.

Keep a Consistent Backup Up

I currently have this hosted on their server but I would encourage keeping a weekly or biweekly backup either on a secure cloud service like box or on a local hard drive. This would ensure if for whatever reason the data on the server gets corrupted or the server fails that the criminal history for the past 50 years of Palau isn't lost.

About the Consultant

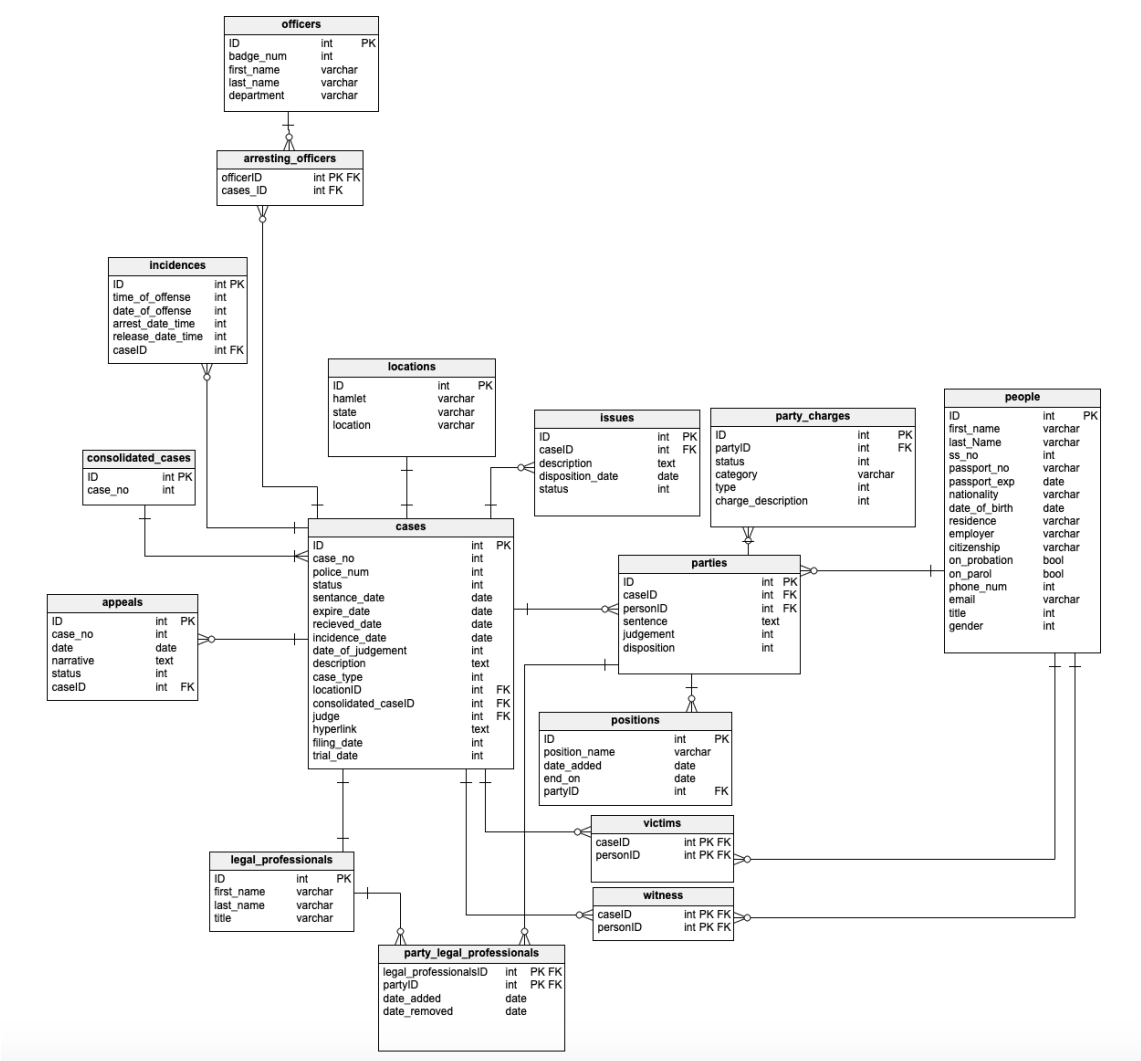
Jonathan Lindstrom graduated with honors from Carnegie Mellon University in May 2025 with Majors in Information Systems and Human-Computer Interactions, as well as a Minor in Intelligent Environments. He has worked previously in the Data-Science Institute at the University of Chicago, publishing a Human-Robot Interactions paper with their Actuated Experiences Lab as well as creating a web scraping auditor for Mondelez International's promotional sites during a summer internship with them.

He will be returning to Mondelez International in January 2026 to work full-time under their Consumer Digital Touchpoints branch at their global headquarters in Chicago.

Appendix

This is my Appendix of work and documentation for the summer. You can find prototypes, site maps, design thoughts, the ERD, and images of my final work here.

Appendix A. Entity-Relationship Diagram



Entity Relationship Diagram Made in Vertabelo, Reviewed by Prof Larry Heimann before development

Appendix B. Lo-Fidelity Wireframes

[Back](#)

Jonathan Lindstrom

| | | | |
|---|-------------------|----------------------------|----------------|
| First Name Jonathan | | Last Name Lindstrom | |
| Gender Male | DOB 02/14/2003 | Probation False | Parol False |
| PassportNo ABC12345678 | | Passport Exp 01/01/2030 | |
| SSNo *** ** 1234 | | Nationality USA | |
| Residence 1234 Sesame Street, Gotham MD, 12345 | | Employer AG Office | |
| Email Jonathan.Lindstrom@gmail.com | | Phone 123-456-7890 | |

See Full Detailed Criminal History

Criminal Cases

3

Civil Cases

1

Charges

Manslaughter, Trespassing, Grand Theft Auto

Convictions

None

Cases

| | | | | |
|---------------------|------------|-----------------|-------------------|------|
| Lindstrom, Jonathan | 05/26/2025 | Status: Done | Criminal Case | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Done | Civil Case | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |

Criminal Cases

| | | | | |
|--|------------|-----------------|-------------------|------|
| Search Params: Last Name, First Name, Attorney Name, Etc | | | | |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
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| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
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| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |
| Lindstrom, Jonathan | 05/26/2025 | Status: Pending | More Initial Info | More |

Case Entry

Criminal Entry Form

| | | | |
|--------------------------|-------------------------|--------------|-------------------|
| RecordNo | CaseNo | Status | Type |
| | | | |
| Name/Org | Position | Attorney | |
| +Party | | | |
| Witness | Victim | | |
| +Witness | +Victim | | |
| Date of Sentence | Date Recieved | Date Expires | Date of Incidence |
| | | | |
| Charge 1 | Charge Status | | |
| +Charge | | | |
| Claim | Claim Description | | |
| Party 1 | Position | | |
| Party 2 | Position | | |
| +Party | | | |
| Description | | | |
| | | | |
| Submit | | | |

Criminal Cases

Lindstrom, Jonathan 5/26/2025

| | | |
|----------|--------|---------|
| RecordNo | CaseNo | Status |
| 1 | 12 | Pending |

| | |
|--------------------|--------------------|
| Plaintiff Attorney | Defendent Attorney |
| Doe, John | Doe, Jane |

| |
|------------|
| Judge Name |
| Misc |

| | | | |
|---------------|---------------|--------------|-------------------|
| Sentence Date | Date Recieved | Date Expires | Date of Incidence |
| 05/26/2025 | 05/26/2025 | 05/26/2025 | 05/26/2025 |

| | |
|----------|----------|
| Battery | Charge 2 |
| Charge 3 | Charge 4 |

XYZ

Appeal

Add Charge/Claim

Offense Location

Add Party

Claims

Plaintiff: Jonathan Defendent: Christiaan, Ernestine More

Counter-Claim Plaintiff: Jonathan Counter-Claim Defendents: Christiaan, Ernestine More

Partys

Lindstrom, Jonathan Defendent More


Lindstrom, Jonathan Plaintiff More

Lindstrom, Jonathan Intervener More

Lindstrom, Jonathan Third Party Plaintiff More

Some Lo-Fi Wireframes made in Figma, these were initial rough ideas. See the full layout of screens [here](#).

Appendix C. Hi-Fidelity - Interactive Wireframes



Office of the Attorney General:
Criminal & Civil Database

People & Organizations

Criminal & Civil Cases

Officers & Legal Professionals

PEOPLE

ORGANIZATIONS

| | | |
|---------------------|---------|---------------------------|
| Lindstrom, Jonathan | Age: 22 | More Info |
| Skywaker, Luke | Age: 30 | More Info |
| Banner, Bruce | Age: 32 | More Info |
| Organa, Lela | Age: 50 | More Info |
| Wayne, Bruce | Age: 21 | More Info |
| Napier, Jack | Age: 28 | More Info |
| Crane, Jonathan | Age: 24 | More Info |
| Friese, Victor | Age: 24 | More Info |
| Ivy, Pamela | Age: 29 | More Info |
| Kyle, Selina | Age: 37 | More Info |

Create a Person

First Name

Last Name

Example

Example

Social Security

Passport Num

Passport Exp

Example

Example

Example

Date of Birth

Email

Phone

Example

Example

Example

Residence

Employer

Example

Example

Citizenship

Nationality

Example

Example

Probation?

Parol?

Example

Example

SUBMIT



Office of the Attorney General:
Criminal & Civil Database

People & Organizations

Criminal & Civil Cases

Officers & Legal Professionals

Case Details

Case Num

Status

12345

Charged

Date Recieved

Offense Date

Expire Date

Sentence Date

01/01/2000

Example

Example

Example

Judge

Type

Hyperlink

J. Lindstrom

Criminal

https://EG.com

Description

Someone did a bad thing

Parties

Jonathan Lindstrom - Male 25

Lawyers: Christiaan Mitchell

[+Lawyer](#)

Charges

| | | |
|--------------------|-----------------|-----------------|
| Assault 3rd Degree | Status: Charged | Category: Drugs |
| Assault 3rd Degree | Status: Charged | Category: Drugs |
| Assault 3rd Degree | Status: Charged | Category: Drugs |

[+Charge](#)

Judgement: Guilty
Sentence: 5,000,000 years

[+Party](#)

Location & Incidence Info

State

Hamlet

Koror

Not Sure

Location

The Waterfall

Time of Offense

Date of Offense

Arrest Date/Time

Release Date

01/01/2000

Example

Example

Example

Arresting Officers

Jim Gordon

[+Officer](#)

Appeals

I didn't do the bad thing and deserve to have this all dropped immediately

Date added: 5/30/25
CaseNo: 123NewC
Status: Denied

[+Appeal](#)

Witnessess

| | |
|--------------------|--|
| Jonathan Lindstrom | Email: 123@gmail.com Phone: +1 202-123-4567 |
| Matthew Lindstrom | Email: 123@gmail.com Phone: +1 202-123-4567 |

[+Witness](#)

Victims

| | |
|-----------------|--|
| Chirs Lindstrom | Email: 123@gmail.com Phone: +1 202-123-4567 |
| Tim Lindstrom | Email: 123@gmail.com Phone: +1 202-123-4567 |

[+Victim](#)

Office of the Attorney General ROP
Jonathan Lindstrom, Student Consultant

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Jonathan, Lindstrom - Age: 22

| | | | |
|--|---|---|--|
| First Name | | Last Name | |
| <input type="text" value="Jonathan"/> | | <input type="text" value="Lindstrom"/> | |
| Social Security | Passport Num | Passport Exp | |
| <input type="text" value="123-45-6789"/> | <input type="text" value="A0012A34"/> | <input type="text" value="01/01/2030"/> | |
| Date of Birth | Email | Phone | |
| <input type="text" value="01/01/2000"/> | <input type="text" value="123@gmail.com"/> | <input type="text" value="123-456-7890"/> | |
| Residence | Employer | | |
| <input type="text" value="Koror, Palau"/> | <input type="text" value="Office of the Attorney General"/> | | |
| Citizenship | Nationality | | |
| <input type="text" value="United States"/> | <input type="text" value="United States"/> | | |
| Probation? | Parol? | | |
| <input type="text" value="Yes"/> | <input type="text" value="No"/> | | |

Jonathan, Lindstrom - Age: 22

| | | |
|---|-------------------|---------------------------|
| Lindstrom V. Palau Criminal Defendant | Status: Convicted | More Info |
| Lindstrom V. Palau Criminal Defendant | Status: Pending | More Info |
| Lindstrom V. Palau Criminal Defendant | Status: Acquitted | More Info |
| Lindstrom V. Napier Civil Plaintiff | Status: Dropped | More Info |
| Lindstrom V. Ivy Civil Defendant | Status: Convicted | More Info |
| Lindstrom V. Wayne Civil Defendant | Status: Convicted | More Info |

See Full Criminal History

This was the interactive High-Fidelity prototype that I user-tested and based my development off of. See the full prototype [here](#)

Appendix D. Alternative Solution Thoughts

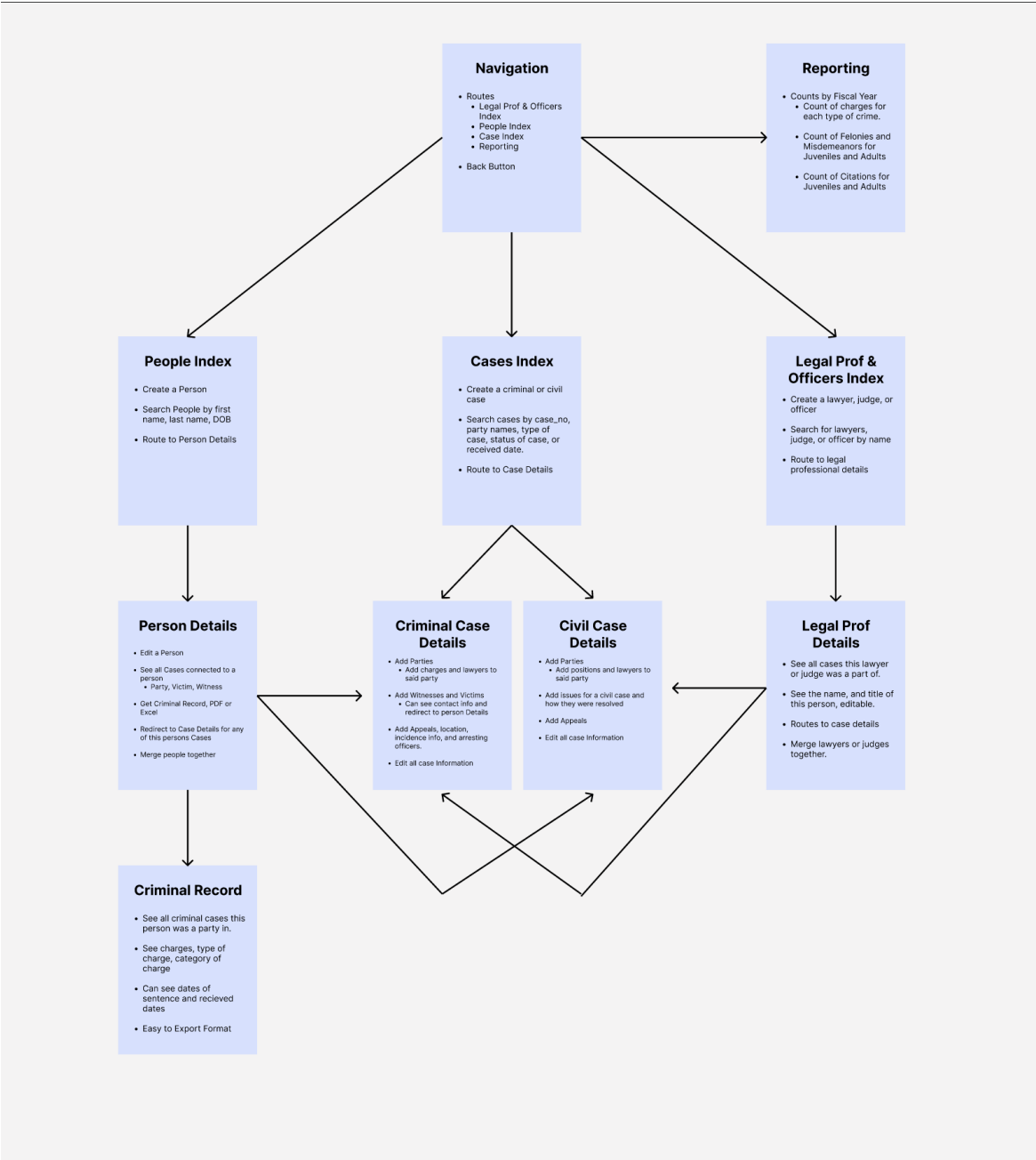
- **Airtable:** I considered building this in airtable, it would have been significantly less technically intensive and it can be cloud based. It seems like the obvious choice. However there were several reasons I didn't choose this. The main reason is the last student consultant to come to the AG's office a few years back created for the office a sex offender registry in Airtable. While this project was really cool and had impactful intentions behind it this project has been left on a shelf from my understanding. I asked the administrators if I could see that project and if they use it and they said they were going to but they haven't really used it as of yet. I believe this wasn't due to the fault of the student consultant but simply that change is tough and having new software to learn is time consuming so people fall back into their regular habits.
- **Building a Web App From Scratch:** I also considered this but quickly dismissed this as there is nobody in the country of Palau with the technical experience to maintain an app like that long term.
- **Microsoft Access:** Even though this was more coding heavy than Airtable it was the software they currently use so there is familiarity there. Also it is fairly well documented and was capable of building the relational database that I wanted to.

Appendix E. Design Decisions - ERD and UI

I made a few potentially questionable design decisions when it came to the ERD and the database as a whole, and I wanted to justify them in case someone questions them.

- Having Victims and Witnesses Separate
 - I could have made one table with a simple enum or selection of someone as a witness or victim. I considered this but felt it was easier for querying to keep them separate. Their information needed to show up differently in different places.
- Having Officers connect to Cases's and not Incidents
 - It makes sense intuitively that officers are part of an incident not a case. I originally had this but Access is really bad about subforms inside subforms. So to do this it would have been really tough to make clear on the UI. Ultimately I decided it wasn't important enough to have the officers connected to incidences as most cases have 1 incidence anyway.
- Searches
 - I originally made one big dynamic search on everything you could think of. This worked perfectly for me given 10 or so test cases, but after I migrated over 30,000 records it became impossibly slow to query on that many topics. So I simplified this, added the Display Name that I auto calculate (ROP v. Doe) as a column in cases and simply did my search on the cases table instead of a custom combined query.

Appendix F. Site Map



Appendix G. Record of Forms, Subforms, and Queries

This is for anybody attempting to work on this system. Please read the document linked here. I went through my whole site and labeled all main pages, subforms, and the queries connected to them and left some notes for what they do/what they are for. This is a good place to go if there is any confusion on certain forms, queries, or where I use things.

[Forms, Subforms and Query Mapping and Explanations](#)